CCNPP3COLA PEmails

From: Anderson, Kathy NAB02 [Kathy.Anderson@usace.army.mil]
Sent: Thursday, October 29, 2009 5:06 PM
To: Quinn, Laura
Subject: FW: UniStar letter UN#09-422, "RAI No. 1019, U.S. Army Corps of Engineers (USACE) Question No. 1 and No. 5"
Attachments: Alternate Site Evaluation Report Rev. 2 - Appendix F.pdf; UN#09-422 Cover Letter.pdf

Laura,

Here it is. Updated Appendix F. We can change the language in the DEIS alternative analysis section to be consistent with the revised document.

Thank you,

Mrs. Kathy Anderson
Biologist
U.S. Army Corps of Engineers
Baltimore District
Operations Division
Regulatory Branch
(410) 962-5690
(410) 962-6001(fax)
http://www.nab.usace.army.mil/Regulatory/index.html

-----Original Message-----
From: Perdomo, Federico R [mailto:Federico.Perdomo@unistarnuclear.com]
Sent: Thursday, October 15, 2009 10:15 AM
To: 'Quinn, Laura'; Anderson, Kathy NAB02
Cc: Stevenson, Michael; Frailer, Melanie D; Yox, Michael J; Klinch, David; Burkman, Jim; 'rgharmon@mactec.com'; Lutchenkov, Dimitri; Beecher, Kimberly A
Subject: UniStar letter UN#09-422, "RAI No. 1019, U.S. Army Corps of Engineers (USACE) Question No. 1 and No. 5"

Laura/Kathy,

Attached please find the cover letter of UniStar letter UN#09-422, "RAI No. 1019, U.S. Army Corps of Engineers (USACE) Question No. 1 and No. 5" The attached Appendix F provides the Least Environmentally Damaging Practicable Alternative analysis which is the main item that changed in the Alternate Site Evaluation Report, Rev. 2. The hard copies of this letter (including the complete Alternate Site Evaluation Report, Rev. 2) will be distributed as normal.

This E-mail copy will help in any telephone discussions that we may have near-term.

Thank You

Federico Perdomo

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professional or other privileged information, and are intended solely for the addressee. If you are not the intended recipient, do not use the information in this e-mail in any way, delete this e-mail and notify the sender.
CEG-IP2

Hearing Identifier: CalvertCliffs_Unit3Cola_Public_EX
Email Number: 1054

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Subject: FW: UniStar letter UN#09-422, "RAI No. 1019, U.S. Army Corps of Engineers (USACE) Question No. 1 and No. 5"
Sent Date: 10/29/2009 5:06:19 PM
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From: Anderson, Kathy NAB02

Created By: Kathy.Anderson@usace.army.mil

Recipients:
"Quinn, Laura" <Laura.Quinn@nrc.gov>
Tracking Status: None

Post Office: NAB-ML1BAL.nab.ds.usace.army.mil

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MESSAGE	1786	10/29/2009 5:09:57 PM
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UN#09-422 Cover Letter.pdf	1625449	

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Reply Requested: No
Sensitivity: Normal
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Appendix F—US Army Corps of Engineers (USACE) Information

This appendix contains: 1) Project Purpose, 2) the Least Environmentally Damaging Practicable Alternative (LEDPA) Analysis.

Section F1 - Purpose

The basic purpose for the project is to generate electricity for additional baseload capacity.

The overall purpose of the project is to construct a nuclear power plant facility to provide for additional baseload electrical generating capacity to meet the growing demand in the State of Maryland.

Section F2 – LEDPA Analysis

Table 9.3-12 of ER Chapter 9 of the Calvert Cliffs Unit 3 COLA presents the impacts of the EPR project at four sites; the proposed site and three alternative sites. The relevant information from the subject table needed for a 404(b)1 analysis and subsequent LEDPA determination by the USACE has been provided in the COLA ER Tables 9.3-12, 9.3-13, and 9.3-14 below.

Review of the tables identifies that relative to impacts to Waters of the U.S. *on the site itself,* EASTALCO would be the LEDPA site. However, further evaluation of associated off-site impacts required for water line and transmission line right-of-way (ROW) construction associated with the Alternative Sites, supports Calvert Cliffs Unit 3 as the LEDPA site.

A LEDPA analysis, by regulation, should help identify a site with the least impact to Waters of the U.S. *and with no significant adverse impacts to other environmental resources* as the Least Environmentally Damaging Practicable Alternative Accordingly, based upon a comprehensive evaluation, including 41 other environmental impact criteria used to evaluate the four sites, Calvert Cliffs Unit 3 Alternative Site Evaluation Report (ASER) and supporting materials clearly demonstrate that the Calvert Cliffs Unit 3 site has the smallest overall impact to environmental resources and therefore is the environmentally preferred location for construction of the EPR within the defined Region of Interest, Maryland.

The dredging for barge access is unique to Calvert Cliffs due to its location and existing nuclear facilities. The proposed tidal wetland impact is approximately 5.7 acres (4.5 acres due to the barge slip restoration and the balance of 1.2 acres is associated with the intake structure, discharge pipe, and fish return). The barge facility restoration work to access the pier and improve navigation would have eventually been necessary to service the existing facilities at Units 1 and 2. The tidal work does not impact the overall LEDPA conclusion, as Calvert Cliffs was selected based on a comprehensive evaluation as described below.

The Alternative Sites Bainbridge and EASTALCO share a similar navigable riverine environment where in-water Cooling Water Intake Structure (CWIS) components are proposed. Similar methods of in-water work and identical impacts below Ordinary High Water (OHW) or Mean High Water shoreline (MHW) were assumed. Certain assumptions were used in the calculations of impacts associated with in-water work, estimated at 0.23 acre (100'x100'). These assumptions are based on understanding of the physical environment, based on screening level data and experience of the UniStar Nuclear Energy team with similar projects. Primary factors included the following: an assumption that 0.23 acre would accommodate the cooling water intake system components and any necessary turbidity curtain array or coffer dam; work within the 0.23 acre disturbance footprint could accommodate dredging, blasting, drilling, or any other typical construction methods; the use of horizontal directional drilling (HDD) could be employed to avoid open cut or surface lay pipeline impacts; the pump house and support structures can be sited outside of any regulatory resource area.

The Thiokol Alternative Site is located along the Patuxent River. Because of the soft muddy substrate documented to be in the river at the location of the cooling water intake and discharge locations and a shallow shelf along the southern shoreline that must be spanned to reach suitable water depths, the following assumptions were included in the calculation of impacts presented here: 1) HDD will not be an effective technology, 2) dredging must be employed for the pipe trench and CWIS component locations, 3) the CWIS would need to be located 1000' or greater offshore. Under this scenario, work would be proposed to impact approximately 2.25 acres of waters below MHW, and require approximately 8,000 cubic yards of (in-place) sediment.

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Table 9.3-12 Comparison of Wetland and Waterway Impacts from Alternative Sites Evaluation (Reconnaissance Level Data)

	Proposed Site		Alternative Sites					
	Calvert Cliffs 3[16]		Bainbridge		EASTALCO		Thiokol[17]	
Property Acreage	2057.2		1068.6		1742.1		620.0	
Wetlands – Total Property[1] (ac)	173.2		4.6		22.0		49.8	
Wetlands – Site[2] (ac)	6.6		0.0		0.0		34.5	
Streams – Total Property[3] (LF)	21805		8654		32944		7055	
Streams – Site[4] (LF)	3604		1557		1311		3435	
Wetlands Affected – Site[5] (ac)	6.6		0.0		0.0		34.5	
Streams Affected – Site[6] (LF)	3604		1557		1311		3435	
Section 10 Waters: Tidal (ac)	5.7[7]		NA		NA		2.25[8]	
Navigable Riverine (ac)	N/A		0.23[9]		0.23[9]		NA	
Off-Site Wetlands/Waterways Affected –ROWs and Interconnects (ac/LF)[7]	Wetlands	Streams	Wetlands	Streams	Wetlands	Streams	Wetlands	Streams
CWIS (in-water components)(ac)[11]	0.23	0	0.23	0	0.23	0	0.23	0
CW Pump House (ac.)[12]	NA	NA	0	0	0	0	0	0
Water Line ROW (ac)[13]	NA	NA	1.3	0	3.2	865	0.4	0
Transmission Line ROW (ac)[14]	0	0	5.2	3517	0.2	1820	26.6	4051
RR Spur/Improvements (ac)	NA	NA	NA	NA	NA	NA	NA	NA
Access Roadways (ac)	NA	NA	NA	NA	NA	NA	NA	NA
Other Off-Site Uses (ac)[15]	NA	NA	NA	NA	NA	NA	NA	NA

[1] "*Total Property*" includes the entirety of the alternate site facility contiguous land holdings (black outline).

[2] "*Site*" includes the 420 parcel on the Total Property selected for EPR development (red outline).

[3] Describes the total length of all streams on the Total Property in linear feet. Includes both mapped perennial and intermittent waterways and obvious drainage ways observed during site inspections or interpreted from desktop mapping.

[4] Describes streams within the 420 EPR Site, calculated in the same manner as streams for "Total Property".

[5] An assumption has been made that any wetlands within the 420 acre Site would be affected.

[6] An assumption has been made that any streams within the 420 acre Site would be affected by construction.

[7] The actual, not estimated, proposed impacts to Sec. 10 regulated tidal waterways below ordinary high water (OHW) or mean high water shoreline (MHW) is approximately 5.7 acres.

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[8] The Thiokol site cooling water intake and discharge structures are located within the Patuxent River. Directional drilling would not be possible based on soft mud substrate, and suitable water depths are located 1000' feet into the river channel seaward of OHW or MHW. Accordingly, dredging of a 1000' x 45' pipe trench (4' deep) in addition to 0.5 acres for aquatic structures is proposed, totaling approximately 2.25 acres. Dredging volume (in place) is estimated to be approximately 8,000 cubic yards.

[9] For both the Bainbridge and EASTALCO Alternative Sites, 0.23 acre (100'x100') of wetland disturbance below OHW is assumed. This estimation of impact is based upon prior experience in similar environments, and assumes use of directional drilling to approach intake sites, and the ability to contain the intake and discharge structures within a coffer dam or turbidity curtain array with area 0.23 acres.

[10] An assumption has been made that any wetlands or streams within the ROWs or interconnects would be affected by construction. Impacts associated with ROW construction and some in-water construction activities are temporary in nature.

[11] An assumption has been made to allow a 100'x100' area of impact for in-water cooling water intake system (CWIS) components. No alternate sites are proposed to use shoreline intake structures; all intake/discharge structures are proposed to be sited at a depth of -20' MLW or greater. Horizontal directional drilling (HDD) is proposed to access off shore locations.

[12] A cooling water pump house would be located alongshore to the selected cooling water source, and would occupy 0.5 acre total area.

[13] For the purposes of this evaluation, it has been assumed that any water line ROW would require a 120' width for construction to allow installation of 2-60" pipes.

[14] For new transmission line construction or reconductoring of existing circuits to accommodate the EPR, a 300' wide cleared ROW is assumed to be required. The Transmission Corridor for the Thiokol site is different from the one in the March 2009 Requests for Additional Information Responses (UN#09-140)

[15] Other off-site uses include any required parking, laydown, staging requiring land alteration.

[16] ER Section 4.1.1.1 (Rev. 5) states the CCNPP3 and supporting facilities will be located on 2,070 acres; ER Section 4.3.1.3 (Rev. 5) states the construction of CCNPP3 will permanently fill approximately 8,350 LF of stream and 11.72 acres of delineated wetland areas. This table provides data primarily for the approximate 420-acre EPR Site (see Footnote 2) for consistent comparison with the alternative sites and, therefore, some data in this table will be different from quantities of affected acreage stated in the ER Rev. 5.

[17] ER Section 9.3.2.4.5 (UN#09-319) states that the Thiokol site has approximately 49.2 ac of non-tidal wetlands and 14,411 LF of stream within the 619 ac Thiokol site. This table provides data primarily for an approximate 420-acre EPR site within the overall property boundary. Therefore the data on affected wetlands and streams in this table will differ from the data presented in ER Section 9.3.2.4.5 (UN#09-319).

Sources: USFWS, 2008. National Wetlands Inventory, U.S. Fish and Wildlife Service, CONUS_wet_poly, Classification of Wetlands and Deepwater Habitats of the United States, Washington, DC, FWS/OBS-79/31, National Wetlands Metadata, website: http://www.fws.gov/wetlands/Data/DataDownloadState.html, accessed: June 17, 2009.
MDNR, 2002. Wetlands of Special State Concern Data, Geospatial Data from the Maryland Department of Natural Resources, Metadata, website: http://dnrweb.dnr.state.md.us/gis/data/data.asp, accessed June 27, 2009.

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Table 9.3-13 Summary of Wetlands on Alternate Sites

	Number of discrete wetlands or systems	Wetland types (NWI classification)	Description
Calvert Cliffs 3	5	1. Freshwater Forested/Shrub Wetland 2. Freshwater Pond 3. Freshwater Pond 4. Freshwater Forested/Shrub Wetland 5. Freshwater Pond	1. 4.7 ac of PFO[1] 2. 0.5 ac of PUB[2] 3. 0.02 ac of PUB 4. 0.5 ac of PFO 5. 0.9 ac of PUB
Bainbridge	5	1. Freshwater Forested/Shrub Wetland 2. Freshwater Pond 3. Riverine 4. Riverine 5. Freshwater Forested/Shrub	1. 3.7 ac 2. 0.9 ac 3. 1.3 ac 4. 3.2 ac 5. 0.7 ac
EASTALCO	10	1. Freshwater Emergent Wetland 2. Freshwater Emergent Wetland 3. Freshwater Forested/Shrub Wetland 4. Freshwater Forested/Shrub Wetland 5. Freshwater Forested/Shrub Wetland 6. Freshwater Emergent Wetland 7. Riverine 8. Freshwater Emergent Wetland 9. Freshwater Emergent Wetland 10. Freshwater Forested/Shrub Wetland	1. 0.2 ac 2. 0.4 ac 3. 0.1 ac 4. 0.3 ac 5. 0.9 ac 6. 0.03 ac 7. 1.3 ac 8. 0.2 ac 9. 0.3 ac 10. 0.7 ac

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Table 9.3-13 Summary of Wetlands on Alternate Sites

	Number of discrete wetlands or systems	Wetland types (NWI classification)	Description
Thiokol	14	1. Freshwater Forested/Shrub Wetland 2. Freshwater Forested/Shrub Wetland 3. Freshwater Forested/Shrub Wetland 4. Freshwater Forested/Shrub Wetland 5. Freshwater Forested/Shrub Wetland 6. Freshwater Forested/Shrub Wetland 7. Freshwater Forested/Shrub Wetland 8. Freshwater Pond 9. Freshwater Emergent Wetland 10. Freshwater Forested/Shrub Wetland 11. Freshwater Emergent Wetland 12. Estuarine and Marine Wetland 13. Estuarine and Marine Deepwater 14. Freshwater Emergent Wetland	1. 2.5 ac of PFO 2. 31.9 ac of PFO 3. 0.08 ac 4. 0.3 ac 5. 4.3 ac 6. 0.1 ac 7. 0.1 ac 8. 0.5 ac 9. 1.9 ac 10. 5.2 ac 11. 1.1 ac 12. 6.3 ac 13. 6.8 ac 14. 0.3 ac

[1] PFO is a palustrine forested wetland
[2] PUB is a palustrine unconsolidated bottom wetland

Sources: USFWS, 2008. National Wetlands Inventory, U.S. Fish and Wildlife Service, CONUS_wet_poly, Classification of Wetlands and Deepwater Habitats of the United States, Washington, DC, FWS/OBS-79/31, National Wetlands Metadata, website: http://www.fws.gov/wetlands/Data/DataDownloadState.html, accessed: June 17, 2009.

MDNR, 2002. Wetlands of Special State Concern Data, Geospatial Data from the Maryland Department of Natural Resources, Metadata, website: http://dnrweb.dnr.state.md.us/gis/data/data.asp, accessed June 27, 2009.

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Table 9.3-14 Summary of Waterways on Alternate Sites

	Number of/names of streams	Stream type	Description
Calvert Cliffs 3	A. Johns Creek	A. Perennial	A. 4661 LF
	B. Tributary to the Bay	B. Perennial	B. 2093 LF
	C. Tributary of Johns Creek	C. Perennial	C. 7400 LF
	D. Goldstein Branch	D. Perennial	D. 2051 LF
	E. Tributary of Perrin Branch	E. Intermittent	E. 4517 LF
	F. Tributary of Perrin Branch	F. Perennial	F. 1083 LF
Bainbridge	A. Tributary of Susquehanna River	A. Perennial	A. 2638 LF
	B. Happy Valley Branch	B. Perennial	B. 6016 LF
	C. Tributary of Susquehanna River	C. Perennial	C. 1279
	D. Tributary of Susquehanna River	D. Perennial	D. 312 LF
	E. Tributary of Susquehanna River	E. Perennial	E. 308 LF
	F. Octoraro Creek	F. Perennial	F. 1433 LF
	G. Tributary to Octoraro Creek	G. Perennial	G. 185 LF
EASTALCO	A. Tributary of Tuscarora Creek	A. Perennial	A.2693 LF
	B. Tuscarora Creek	B. Perennial	B. 12319 LF
	C. Tributary of Tuscarora Creek	C. Intermittent	C. 6001 LF
	D. Tributary of Tuscarora Creek	D. Perennial	D. 3399 LF
	E. Tributary of Tuscarora Creek	E. Intermittent	E. 4634 LF
	F. Horsehead Run	F. Intermittent	F. 3898 LF
	G. Tributary of Tuscarora Creek	G. Intermittent	G. 120 LF
	H. Tuscarora Creek	H. Perennial	H. 745 LF
	I. Tributary of Tuscarora Creek	I. Perennial	I. 395 LF
	J. Tributary of Tuscarora Creek	J. Perennial	J. 327 LF
	K. Tributary of Tuscarora Creek	K. Perennial	K. 378 LF
	L. Tributary of Tuscarora Creek	L. Perennial	L. 403 LF
	M. Tributary of Tuscarora Creek	M. Perennial	M. 317 LF
Thiokol	A. Tributary of Burnt Mill Creek	A. Perennial	A. 5430 LF
	B. Rich Neck Creek	B. Perennial	B. 2250 LF
	C. Tributary of Burnt Mill Creek	C. Perennial	C. 312 LF
	D. Horse Landing Creek	D. Perennial	D. 486 LF
	E. Tributary of Persimmon Creek	E. Perennial	E. 332 LF
	F. Persimmon Creek	F. Perennial	F. 324 LF
	G. Tributary of Killpeck Creek	G. Perennial	G. 300 LF
	H. Killpeck Creek	H. Perennial	H. 300 LF
	I. Tributary of Patuxent Creek	I. Perennial	I. 445 LF
	J. Tributary of Patuxent Creek	J. Perennial	J. 354 LF
	K. Tributary of Patuxent Creek	K. Perennial	K. 308 LF
	L. Tributary of Patuxent Creek	L. Intermittent	L. 201 LF
	M. Tributary of Patuxent Creek	M. Perennial	M. 310 LF
	L. Swanson Creek	L. Perennial	L. 379 LF

Sources:
USFWS, 2008. National Wetlands Inventory, U.S. Fish and Wildlife Service, CONUS_wet_poly, Classification of Wetlands and Deepwater Habitats of the United States, Washington, DC, FWS/OBS-79/31, National Wetlands Metadata, website: http://www.fws.gov/wetlands/Data/DataDownloadState.html, accessed June 17, 2009.
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Greg Gibson
Vice President, Regulatory Affairs

750 East Pratt Street, Suite 1600
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UniStar
NUCLEAR ENERGY

10 CFR 50.4
10 CFR 52.79

October 15, 2009

UN#09-422

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: UniStar Nuclear Energy, NRC Docket No. 52-016
Calvert Cliffs Nuclear Power Plant, Unit 3
Supplemental Response to Environmental Report
RAI No. 1019, U.S. Army Corps of Engineers (USACE)
Question No. 1 and No. 5

References:
1) Laura Quinn (NRC) to Greg Gibson (UniStar Nuclear Energy), "Request for Additional Information Related to the Environmental Review for the Calvert Cliffs Combined License Application – Revised Alternative Sites," dated September 18, 2009.
2) Greg Gibson (UniStar Nuclear Energy) to NRC Document Control Desk letter UN#09-404, "Response to Environmental Report RAI No. 1019, U.S. Army Corps of Engineers (USACE)," dated September 25, 2009.

The purpose of this letter is to provide a supplemental response to Questions No. 1 and No. 5 of the U.S. Army Corps of Engineers (USACE) request for additional information (RAI) No. 1019. RAI No. 1019 consisted of five questions from the USACE for Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3 as provided in NRC letter to UniStar Nuclear Energy, dated September 18, 2009 (Reference 1). The initial response to RAI 1019 (Questions 1 through 5) was provided in Reference 2.

Enclosure 1 provides the supplemental response to Question No. 1 and No. 5 of RAI No. 1019. Enclosure 2 provides the revised CCNPP Unit 3 Alternate Site Evaluation, dated October 2009, with a revised Appendix F in response to RAI 1019 Question 1. A Licensing Basis Document Change Request has been initiated to incorporate the COLA changes into a future revision of the CCNPP Unit 3 Combined License Application. This response does not include any new regulatory commitments.

Additionally, this response contains no proprietary or security sensitive information.

If there are any questions regarding this transmittal, please contact me at (410) 470-4205, or Mr. Dimitri Lutchenkov at (410) 470-5524.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on October 15, 2009

Greg Gibson

Enclosures:

1) Response to NRC Request for Additional Information, RAI No. 1019, U.S. Army Corps of Engineers (USACE), Question No. 1 and No. 5, Calvert Cliffs Nuclear Power Plant Unit 3

2) Calvert Cliffs Nuclear Power Plant Unit 3, Alternate Site Evaluation, Revision 2, October 15, 2009

cc: Surinder Arora, NRC Project Manager, U.S. EPR Projects Branch
Laura Quinn, NRC Environmental Project Manager, U.S. EPR COL Application
Getachew Tesfaye, NRC Project Manager, U.S. EPR DC Application (w/o enclosure)
Loren Plisco, Deputy Regional Administrator, NRC Region II (w/o enclosure)
Silas Kennedy, U.S. NRC Resident Inspector, CCNPP, Units 1 and 2
U.S. NRC Region I Office
Kathy Anderson, US Army Corps of Engineers (w/enclosure)

GTG/FRP/mdf

Enclosure 1

Response to NRC Request for Additional Information
RAI No. 1019, US Army Corps of Engineers (USACE)
Question No. 1 and No. 5,
Calvert Cliffs Nuclear Power Plant Unit 3

RAI No. 1019

US Army Corps of Engineers (Corps) RAIs

Question 1

Delete the permit application, cultural resources report and mitigation plan from the Alternatives Evaluation Report Appendix F.

Response

The permit application, cultural resources report and mitigation plan have been removed from the Alternative Site Evaluation Report (ASER) Appendix F as requested, and the ASER is reissued as Revision 2 (see Enclosure 2).

COLA Impact

CCNPP COLA ER Sections 9.3.3 and 9.3.4 will be revised as follows in a future revision of the COLA:

> **9.3.3 SUMMARY AND CONCLUSIONS**
>
> The detailed site evaluations are contained in the Calvert Cliffs Alternate Site Evaluation, October ~~August~~ 2009 (UniStar, 2009). Table 9.3-4, Weighted Scoring of Candidate Sites, compares the weighted numerical scores of the Selected and Candidate sites derived from the above referenced Alternate Site Evaluation. Table 9.3-8 is a Comparison of Proposed and Alternate Sites using the NRC Three-level Standard of significance. The Summary and Conclusions based upon the foregoing are discussed below.
>
> **9.3.4 REFERENCES**
>
> **UniStar, 2009.** Calvert Cliffs Nuclear Power Plant Unit 3 Alternate Site Evaluation, UniStar Nuclear Energy. October ~~August~~ 2009.

Question 5:

Provide a Corps-focused alternative site analysis which must include a text description of the wetland and stream impact analysis outcome for the offsite and onsite alternatives. Based on potential/proposed wetland and stream impact information, provide a statement indicating which site location would be the Least Environmentally Damaging Practicable Alternative (LEDPA). If not the selected project, explain the reasons the LEDPA site was not selected.

Response

Table 9.3-12 of ER Chapter 9 of the Calvert Cliffs Unit 3 COLA presents the impacts of the EPR project at four sites; the proposed site and three alternative sites. The relevant information from the subject table needed for a 404(b)1 analysis and subsequent LEDPA determination by the USACE has been provided in Appendix F of the Alternative Site Evaluation Report (see Enclosure 2).

Review of ER Tables 9.3-12, 9.3-13, and 9.3-14 identifies that relative to impacts to Waters of the U.S. *on the site itself,* EASTALCO would be the LEDPA site. However, further evaluation of associated off-site impacts required for water line and transmission line right-of-way (ROW) construction associated with the Alternative Sites, supports Calvert Cliffs Unit 3 as the LEDPA site.

A LEDPA analysis, by regulation, should help identify a site with the least impact to Waters of the U.S. *and with no significant adverse impacts to other environmental resources* as the Least Environmentally Damaging Practicable Alternative Accordingly, based upon a comprehensive evaluation, including 41 other environmental impact criteria used to evaluate the four sites, Calvert Cliffs Unit 3 Alternative Site Evaluation Report (ASER) and supporting materials clearly demonstrate that the Calvert Cliffs Unit 3 site has the smallest overall impact to environmental resources and therefore is the environmentally preferred location for construction of the EPR within the defined Region of Interest, Maryland.

The dredging for barge access is unique to Calvert Cliffs due to its location and existing nuclear facilities. The proposed tidal wetland impact is approximately 5.7 acres (4.5 acres due to the barge slip restoration and the balance of 1.2 acres is associated with the intake structure, discharge pipe, and fish return). The barge facility restoration work to access the pier and improve navigation would have eventually been necessary to service the existing facilities at Units 1 and 2. The tidal work does not impact the overall LEDPA conclusion, as Calvert Cliffs was selected based on a comprehensive evaluation as described below.

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to avoid open cut or surface lay pipeline impacts; the pump house and support structures can be sited outside of any regulatory resource area.

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COLA Impact

UniStar letter UN#09-403, dated September 25, 2009, provided changes to COLA ER Tables 9.3-12, 9.3-13, and 9.3-14. This transmittal (UN#09-422) provides supplemental revision to ER Table 9.3-12. The CCNPP COLA ER Table 9.3-12 will be updated as follows in a future COLA revision:

Table 9.3-12 Comparison of Wetland and Waterway Impacts: CC3 vs. Alternate Sites

	Calvert Cliffs [16] ~~13~~		Bainbridge		EASTALCO		Thiokol [17] ~~14~~	
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Wetlands – Site[2] (ac)	6.6		0.0		0.0		34.5	
Streams – Total Property[3] (LF)	21805		8654		32944		7055	
Streams – Site[4] (LF)	3604		1557		1311		3435	
Wetlands Affected – Site[5] (ac)	6.6		0.0		0.0		34.5	
Streams Affected – Site[6] (LF)	3604		1557		1311		3435	
Section 10 Waters: Tidal (ac)	5.7[7]		NA		NA		2.25[8]	
Navigable Riverine (ac)	N/A		0.23[9]		0.23[9]		NA	
Off-Site Wetlands/Waterways Affected –ROWs and Interconnects (ac/LF)[10] ~~7~~	Wetlands	Streams	Wetlands	Streams	Wetlands	Streams	Wetlands	Streams
CWIS (in-water components)(ac)[11] ~~8~~	0.23	0	0.23	0	0.23	0	0.23	0
CW Pump House (ac.)[12] ~~9~~	NA	NA	0	0	0	0	0	0
Water Line ROW (ac)[13] ~~10~~	NA	NA	1.3	0	3.2	865	0.4	0
Transmission Line ROW (ac)[14] ~~11~~	0	0	3.0	4926	0.2	1820	26.6	4051
RR Spur/Improvements (ac)	NA	NA	NA	NA	NA	NA	NA	NA
Access Roadways (ac)	NA	NA	NA	NA	NA	NA	NA	NA
Other Off-Site Uses (ac)[15] ~~12~~								

[1] "*Total Property*" includes the entirety of the alternate site facility contiguous land holdings (black outline).

[2] "*Site*" includes the 420 parcel on the Total Property selected for EPR development (red outline).

[3] Describes the total length of all streams on the Total Property in linear feet. Includes both mapped perennial and intermittent waterways and obvious drainage ways observed during site inspections or interpreted from desktop mapping.

[4] Describes streams within the 420 EPR Site, calculated in the same manner as streams for "Total Property".

[5] An assumption has been made that any wetlands within the 420 acre Site would be affected.

[6] An assumption has been made that any streams within the 420 acre Site would be affected by construction.

[7] The actual, not estimated, proposed impacts to Sec. 10 regulated tidal waterways below ordinary high water (OHW) or mean high water shoreline (MHW) is approximately 5.7 acres.

[8] The Thiokol site cooling water intake and discharge structures are located within the Patuxent River. Directional drilling would not be possible based on soft mud substrate, and suitable water depths are located 1000' feet into the river channel seaward of OHW or MHW. Accordingly, dredging of a 1000' x 45' pipe trench (4' deep) in addition to 0.5 acres for aquatic structures is proposed, totaling approximately 2.25 acres. Dredging volume (in place) is estimated to be approximately 8,000 cubic yards.

[9] For both the Bainbridge and EASTALCO Alternative Sites, 0.23 acre (100'x100') of wetland disturbance below OHW is assumed. This estimation of impact is based upon prior experience in similar environments, and assumes use of directional drilling to approach intake sites, and the ability to contain the intake and discharge structures within a coffer dam or turbidity curtain array with area 0.23 acres.

[10] ~~7~~ An assumption has been made that any wetlands or streams within the ROWs or interconnects would be affected by construction. Impacts associated with ROW construction and some in-water construction

activities are temporary in nature.

[11-8]An assumption has been made to allow a 100'x100' area of impact for in-water cooling water intake system (CWIS) components. No alternate sites are proposed to use shoreline intake structures; all intake/discharge structures are proposed to be sited at a depth of -20' MLW or greater. Horizontal directional drilling (HDD) is proposed to access off shore locations.

[12-9]A cooling water pump house would be located alongshore to the selected cooling water source, and would occupy 0.5 acre total area.

[13-10]For the purposes of this evaluation, it has been assumed that any water line ROW would require a 120' width for construction to allow installation of 2-60" pipes.

[14-11]For new transmission line construction or reconductoring of existing circuits to accommodate the EPR, a 300' wide cleared ROW is assumed to be required. The Transmission Corridor for the Thiokol site is different from the one in the March 2009 Requests for Additional Information Responses (UN#09-140)

[15-12]Other off-site uses include any required parking, laydown, staging requiring land alteration.

[16-13]ER Section 4.1.1.1 (Rev. 5) states the CCNPP3 and supporting facilities will be located on 2,070 acres; ER Section 4.3.1.3 (Rev. 5) states the construction of CCNPP3 will permanently fill approximately 8,350 LF of stream and 11.72 acres of delineated wetland areas. This table provides data primarily for the approximate 420-acre EPR Site (see Footnote 2) for consistent comparison with the alternative sites and, therefore, some data in this table will be different from quantities of affected acreage stated in the ER Rev. 5.

[17-14] ER Section 9.3.2.4.5 (UN#09-319) states that the Thiokol site has approximately 49.2 ac of non-tidal wetlands and 14,411 LF of stream within the 619 ac Thiokol site. This table provides data primarily for an approximate 420-acre EPR site within the overall property boundary. Therefore the data on affected wetlands and streams in this table will differ from the data presented in ER Section 9.3.2.4.5 (UN#09-319). [13]~~ER Section 4.1.1.1 claimed the CCNPP3 and supporting facilities would be located on 2,070 acres; ER Section 4.3.1.3 stated the construction of CCNPP3 would permanently fill approximately 8,350 LF of stream and 11.72 acres of delineated wetland areas~~

[14] ~~RAI Section 9.3.2.4 states the former Thiokol site is a 620 ac property; RAI Section 9.3.2.4.5 states the Thiokol site has approximately 49.2 ac of non-tidal wetlands and 14,411 LF of stream (Source: National Wetlands Inventory, Branch of Resource and Mapping Support, Geospatial Data – The Wetlands Geo Web; U.S. Fish and Wildlife Service, Website: http://www.fws.gov/wetlands/. Accessed July 2008.)~~

Sources: USFWS, 2008. National Wetlands Inventory, U.S. Fish and Wildlife Service, CONUS_wet_poly, Classification of Wetlands and Deepwater Habitats of the United States, Washington, DC, FWS/OBS-79/31, National Wetlands Metadata, website: http://www.fws.gov/wetlands/Data/DataDownloadState.html, accessed: June 17, 2009.

MDNR, 2002. Wetlands of Special State Concern Data, Geospatial Data from the Maryland Department of Natural Resources, Metadata, website: http://dnrweb.dnr.state.md.us/gis/data/data.asp, accessed June 27, 2009.

UN#09-422

Enclosure 2

Calvert Cliffs Nuclear Power Plant Unit 3
Alternate Site Evaluation, Revision 2
October 15, 2009